

REMARKS

Claims 1 and 5-19 are all the claims pending in the application, claims 2-4 having been previously cancelled. The Examiner rejects claims 1, 5-6, 8-10, 12, and 14-19 under 35 U.S.C. §102(b) as being anticipated by Taniguchi, et al. (US 6,094,216). The Examiner also rejects claims 7, 11, and 13 under 35 U.S.C. §103(a) as being unpatentable over Taniguchi. The Examiner also have rejected claims 1 and 5-19 under 35 U.S.C. §112, first paragraph as failing to comply with the written description and enablement requirements. The Examiner also objects to claims 1 and 5-19 for informalities.

Applicant amends the specification, paragraph 0030, to address the Examiners comments on pages 3 and 4 of the Office Action dated May 25, 2006. Applicant also amends claims 1, 5-6, 8, 10, 12, and 14-15, and cancels claims 11, 13, and 18.

§ 112, First Paragraph Rejection

In response the Examiner's comment on pages 3 and 4 of the Office Action dated May 25, 2006, applicant amends the specification to correct the representation of the distance from the observer to the display panel and not the mask. Figs. 1, 4, and 5 have previously been corrected in response to the Examiner's comments. This amendment does not constitute new matter, but merely corrects an obvious error. One skilled in the art would certainly be able to understand these limitations even without correcting the error, but correcting the error aids in the understanding of the subject matter sought to be patented.

In addition, the applicant amends claims 1 and 12 to delete the limitations of "the convertible regions that correspond to at least one parallax image become opaque" and "wherein the length for a segment of the transparent region is $p(D-d)/D$ and the length for a segment of the convertible region is $(n-1)p(D-d)/D$ where n is the number of parallax images, p is a pixel dimension, D is the

distance from a viewer to the display panel, and d is the distance from the mask to the display panel."

Claim Objections

The applicant replies to each of the Examiner's objections.

In objection 1, the Examiner stated the phrase "correspond to" is confusing because the mask fully covers the display panel having the parallax image. The mask is, for example, an LCD panel in which certain regions may be made to be opaque or transparent. The display panel will display pixels of a number of parallax images simultaneously; each parallax image representing a different viewing angle. A viewer will see only those pixels covered by the transparent regions of the mask, and the transparent regions of the mask are configured to cover a single parallax image. Accordingly, the transparent regions of the mask may be configured to show a single parallax image depending on the position of the viewer thereby enabling the viewer to see different images as his position changes thus creating the illusion of a three-dimensional image. Applicant has amended the phrase "correspond to" with the word "overlay" to indicate a portion of the mask is placed in front of the display panel having parallax images, and those portions of the mask may be either transparent or opaque thereby allowing the viewer to see only one of the several parallax images.

Regarding objection 2, applicant deletes the phrase "the length for a segment of the transparent region ... and length for a segment of the convertible region" in claims 1 and 12.

Regarding objection 3, applicant amends claims 1 and 12 to add the limitation that a parallax image represents a viewing angle.

Regarding objection 4, applicant deletes reference to the length of a transparent segment and accordingly the pixel dimension in claims and 12.

Applicant believes each of the Examiner's objections numbered 1 through 4 is now moot with the amendments to claims 1 and 12.

Objections 5 and 7 relate to "predetermined number" of the parallax images, wherein the predetermined number is arbitrary. Applicant respectfully disagrees. As recited in the application in paragraph 0034, the number of parallax images relates to the number of viewing angles, and the greater the number of viewing angles, the less the resolution of each of the parallax images. Therefore, applicant believes "predetermined" refers to a number of parallax images that reflects a design choice between the number of viewing angles and the resolution of each of the viewing angles.

The number of parallax images can either be increased or reduced, in accordance with the principles of the present invention. When the number of parallax images increases, the viewer 100 is able to view and enjoy the displayed image at a wider range of viewing location and viewing angle. In other words, for example, the viewer 100 can move sideways along the same horizontal line as the mask 50 and still enjoy the same picture quality. However, in this case, the resolution of the displayed image is decreased, thereby deteriorating the picture quality. **Therefore, the number of parallax images should be decided while taking into consideration the viewing angle of the viewer 100 and the resolution of the image.**

See, Application, paragraph 0034.

While the applicant believes "predetermined number" fully meets the requirements of 35 U.S.C. §112, first paragraph, written description, applicant amends claims 10 and 14-15 to change "predetermined" to "preset" where preset means a chosen number of parallax images or viewing angles to achieve an acceptable resolution of each parallax image.

Objection 6 relates to how the controller controls the distance between the display panel and the mask, and the Examiner states claims 11 and 13 fail to teach explicitly how the display panel and mask may be moved. Claims 11 and 13 have been cancelled, and applicant believes this objection is moot.

Objection 8 relates to the limitation of claim 12 "wherein the transparent regions of the mask are changed with a displacement in direction along a perpendicular direction." This limitation has been deleted and the objection is now moot.

Regarding Objection 9, Applicant has amended the phrase "correspond to" with the word "overlay" to indicate a portion of the mask is placed in front of the display panel having parallax images, and those portions of the mask may be either transparent or opaque thereby allowing the viewer to see only one of the several parallax images.

Objection 10 relates to now cancelled claim 18, and is now moot for this reason.

Objection 11 relates to dependencies of claims 5 and 6. Claims 5 and 6 have been amended to depend now from claim 1.

In view of the above remarks, the applicant has addressed each of the Examiner's objections. The applicant believes the objections have been overcome, and respectfully requests reconsideration and withdrawal.

102(b) Rejections Taniguchi Reference

Claims 1, 5-6, 8-10, 12, and 14-19 stand rejected under 35 U.S.C. §102(b) as being anticipated by Taniguchi. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). See, MPEP 2131.

The Examiner relies upon Taniguchi to teach a stereoscopic image display apparatus having a display panel for displaying a plurality of parallax images and a barrier (mask) which may comprise a liquid crystal display panel having transparent and opaque regions (convertible regions). Fig. 1 of Taniguchi's apparatus is reproduced below for convenience.

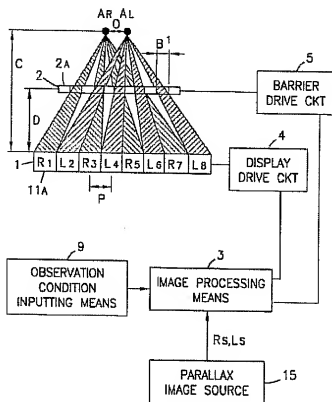


Fig. 1

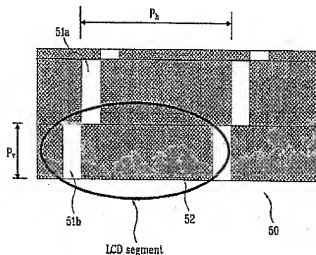
Applicant amends claims 1 and 12 to include the limitation "wherein the area of the opaque regions of the mask are multiples of the transparent regions depending upon the number of parallax images" and to delete the limitation "wherein the length for a segment of the transparent region is $p(D-d)/D$ and the length for a segment of the convertible region is $(n-1)p(D-d)/D$ where n is the number of parallax images, p is a pixel dimension, D is the distance from a viewer to the display panel, and d is the distance from the mask to the display

panel." The added limitation does not add new matter and finds support in the specification in paragraph 0031 and Figs. 3 to 5.

Taniguchi teaches a stereoscopic apparatus, and accordingly, the area of the convertible region of the mask is equal to the transparent region of the mask. All figures of Taniguchi show the transparent area of the mask equal to the opaque area of the mask. See, for example, Figs. 4A and B, 5, 11A and B, and 16-20. Each of these figures depicts the transparent area being equal to the opaque area.

By contrast, the claims 1 and 12 as amended recite the limitation that the area of the opaque region is a multiple of the area of the transparent region, and the multiple depends of the number of parallax images. This is best shown in Fig. 3, shown below, in which the opaque region 52 is a multiple of transparent region 51b.

FIG. 3



Taniguchi does not teach that the area of the opaque region is a multiple of the area of the transparent region, and therefore does not teach all the limitations of claims 1 and 12. For at least this reason, claims 1 and 12, as amended, are allowable over Taniguchi. Applicant respectfully requests reconsideration and allowance in view of the amendments and remarks.

Dependent claims 5-10, 14-17, and 19

Each of the above listed dependent claims depends from a now allowable independent claim and is therefore allowable for at least this reason. Applicant respectfully requests reconsideration and withdrawal of the rejections.

**103(a) Rejections
Taniguchi Reference**

Claims 7, 11, and 13 are rejected under 35 U.S.C. §103(a) as being unpatentable over Taniguchi. To establish a prima facie case of obviousness, three basic criteria must be met one of which is that the prior art reference (or references when combined) must teach or suggest all the claim limitations. See, MPEP 2143.

Claims 11 and 13 have been cancelled, and the rejections pertaining to these claims are moot.

Regarding claim 7, claim 7 is depends from claim 1 and has the same limitations as the base claims, and for at least the reasons presented above, are also allowable. Applicant respectfully requests reconsideration and withdrawal of the rejection.

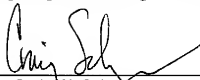
CONCLUSION

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain at issue which the Examiner feels may be best resolved through a telephone interview, the Examiner is kindly invited to contact the undersigned at (213) 623-2221.

Respectfully submitted,
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Date: April xx, 2007

By: _____


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